

AMENDMENTS TO THE CLAIMS

This Listing of Claims replaces all prior versions, and listings, of claims in this application.

1-14 (Cancelled).

15. (Currently Amended) A method, comprising:
situating a sensor device in a body; and
identifying a position of the sensor device relative to an internal coordinate system using an imaging technique, wherein the internal coordinate system is based on a plurality of markers at least one of which is other than and not physically attached to the sensor, the markers located in the body and having an imageable marker property, and wherein identifying comprises identifying the position relative to at least one of the plurality of markers.

16. (Original) The method of claim 15, wherein situating comprises implanting the sensor device in the body.

17. (Previously Presented) The method of claim 16, wherein implanting comprises injecting the sensor device in the body using a needle.

18. (Original) The method of claim 15, wherein the sensor device has a length less than approximately 26 millimeters.

19. (Original) The method of claim 15, further comprising identifying the position relative to an anatomical landmark.

20. (Original) The method of claim 15, further comprising identifying the position relative to an organ.

21. (Previously Presented) The method of claim 15, further comprising tracking the position of the sensor device over time and as the body moves.

22-23 (Canceled).

24. (Original) The method of claim 15, further comprising monitoring in vivo at least one physiological parameter of the body.

25-30 (Cancelled).

31. (Currently Amended) A method, comprising:

monitoring in vivo at least one physiological parameter of a body using an in vivo landmark having a sensor device;

imaging a plurality of markers and ~~an~~ the in vivo landmark in a first imaging modality; correlating a position of the in vivo landmark relative to at least one of the plurality of markers;

imaging the plurality of markers in a second modality, wherein the in vivo landmark is not imageable in the second modality; and

determining the position of the in vivo landmark relative to at least one of the plurality of markers based on the correlating.

32. (Original) The method of claim 31, wherein the in vivo landmark is an anatomical landmark.

33. (Original) The method of claim 31, wherein the in vivo landmark is a sensor device.

34. (Original) The method of claim 33, wherein the sensor device comprises at least one of the plurality of markers.

35. (Original) The method of claim 31, wherein the first modality is CT imaging.

36. (Original) The method of claim 35, wherein the second modality is ultrasound imaging.

37. (Original) The method of claim 35, wherein the second modality is MV imaging.

38. (Original) The method of claim 35, wherein the second modality is kV imaging.

39. (Original) The method of claim 31, wherein the first modality is magnetic resonance imaging.

40. (Original) The method of claim 39, wherein the second modality is MV imaging.

41. (Original) The method of claim 39, wherein the second modality is kV imaging.
42. (Original) The method of claim 39, wherein the second modality is ultrasound imaging.
43. (Previously Presented) The method of claim 15, further comprising implanting the sensor through injection.
- 44-52 (Cancelled).
53. (Previously Presented) The method of claim 15 wherein identifying the position comprises calculating the position of the sensor device relative to the plurality of markers.
54. (Previously Presented) The method of claim 15 wherein the sensor is imageable in a first modality but is not imageable in a second modality, and identifying comprises imaging the markers in the second modality.
55. (Previously Presented) The method of claim 31 wherein the at least one physiological parameter comprises at least one of a radiation dose received by the body, a temperature of the body, a pH of the body, a metabolism of the body, and an oxygenation of the body.
56. (Previously Presented) The method of claim 31 wherein the at least one physiological parameter comprises at least one of a cardiac condition of the body, a glucose level of the body, and a temperature of the body.
57. (Previously Presented) The method of claim 31 further comprising injecting the markers into the body using a needle.
58. (Previously Presented) The method of claim 31 wherein monitoring comprises monitoring using a sensor injected into the body using a needle.
59. (Previously Presented) The method of claim 15 wherein the markers and the sensor device are implanted into an anatomic area that distorts over time, and identifying a position of the sensor device comprises relating the position of the sensor device to the markers as the area distorts to provide a more accurate position of the sensor device.
60. (Previously Presented) The method of claim 59 further comprising:

measuring an amount of radiation delivered to the sensor device within the area that distorts; and

determining an amount of radiation to a target volume and to adjacent non-target volumes based on the measured radiation.